

CLAIMS

1. A vehicle-mounted device for capturing video imagery in response to a triggering event, comprising:

a housing;

an image sensor mounted to said housing, said image sensor sensing optical phenomena representing said video imagery;

a data sensor circuit within said housing and in part responsive to said triggering event; and

a capture circuit within said housing coupled to said image sensor capturing a signal representing said video imagery and terminating capture of said signal in response to said data sensor circuit sensing said triggering event.

2. The vehicle-mounted device claimed in claim 1, wherein said capture circuit terminates capture of said signal a predetermined time interval after occurrence of said triggering event.

3. The vehicle-mounted device/ claimed in claim 1, wherein said capture circuit comprises a digital recording circuit having a digital memory and records said signal representing said video imagery.

4. The vehicle-mounted device claimed in claim 3, wherein said capture circuit further records a signal representing data produced by said data sensor circuit.

5. The vehicle-mounted device claimed in claim 1, wherein said capture circuit comprises a transmitter transmitting a signal representing said video imagery to a remote location.

6. The vehicle-mounted device claimed in claim 5, wherein said transmitter transmits said signal in real-time.

7. The vehicle-mounted device claimed in claim 1, wherein said data sensor circuit comprises a sensor responsive to a change in force experienced by said device.

8. The vehicle-mounted device claimed in claim 7, wherein said data sensor circuit comprises a forward sensor responsive to a change in force experienced by said device in a direction substantially perpendicular to a direction of elongation of said housing and a lateral sensor responsive to a change in force experienced by said device in a direction substantially parallel to said direction of elongation of said housing.

9. The vehicle-mounted device claimed in claim 1, wherein said
2 image sensor is disposed behind said mirror and senses said optical
phenomena transmitted through a portion of said mirror.

10. The vehicle-mounted device claimed in claim 9, wherein said
2 portion of said mirror is half-silvered and partially transmits and partially reflects
said optical phenomena to provide said mirror with a uniformly mirrored
4 appearance.

11. The vehicle-mounted device claimed in claim 9, wherein said
2 portion of said mirror is transparent.

12. The vehicle-mounted device claimed in claim 1, wherein said
2 image sensor is oriented to sense optical phenomena impinging upon it from a
direction substantially perpendicular to a direction of elongation of said housing.

13. The vehicle-mounted device claimed in claim 12, wherein said
2 image sensor comprises first and second portions, said first portion oriented to
sense optical phenomena impinging upon it from a direction substantially
4 perpendicular to a direction of elongation of said housing, said second portion
oriented to sense optical phenomena impinging upon it from a direction
6 substantially perpendicular to a direction of elongation of said housing and
axially opposite said direction from which said optical phenomena impinges
8 upon said first portion.

14. The vehicle-mounted device claimed in claim 13, wherein said first
2 portion of said image sensor is disposed behind said mirror and senses said
optical phenomena transmitted through a portion of said mirror.

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15. The vehicle-mounted device claimed in claim 1, wherein:
2 said data sensor circuit further comprises a global positioning system
(GPS) receiver identifying a geographic position of said vehicle-mounted device;
4 and
said capture circuit further records a signal representing said geographic
6 position.

16. The vehicle-mounted device claimed in claim 1, wherein:
2 said data sensor circuit further comprises a microphone;
said capture circuit further records a signal representing said sound
4 impinging upon said microphone.

17. A vehicle-mounted device for capturing video imagery in response
2 to a triggering event, comprising:
a housing having a generally elongated shape;
4 a rear-view mirror mounted to said housing and having a generally
elongated shape;
6 an image sensor mounted to said housing, said image sensor sensing
optical phenomena representing said video imagery;
8 a data sensor circuit within said housing and in part responsive to said
triggering event; and
10 a capture circuit within said housing coupled to said image sensor
capturing a signal representing said video imagery and terminating capture of
12 said signal in response to said data sensor circuit sensing said triggering event.

18. The vehicle-mounted device claimed in claim 17, wherein said
2 capture circuit terminates capture of said signal a predetermined time interval
after occurrence of said triggering event.

19. The vehicle-mounted device claimed in claim 17, wherein said
2 capture circuit comprises a digital recording circuit having a digital memory and
records said signal representing said video imagery.

20. The vehicle-mounted device claimed in claim 19, wherein said
2 capture circuit further records a signal representing data produced by said data
sensor circuit.

21. The vehicle-mounted device claimed in claim 17, wherein said
2 capture circuit comprises a transmitter transmitting a signal representing said
video imagery to a remote location.

22. The vehicle-mounted device claimed in claim 21, wherein said
2 transmitter transmits said signal in real-time.

23. The vehicle-mounted device claimed in claim 17, wherein said data
2 sensor circuit comprises a sensor responsive to a change in force experienced
by said device.

24. The vehicle-mounted device claimed in claim 23, wherein said data
2 sensor circuit comprises a forward sensor responsive to a change in force
experienced by said device in a direction substantially perpendicular to a
4 direction of elongation of said housing and a lateral sensor responsive to a
change in force experienced by said device in a direction substantially parallel
6 to said direction of elongation of said housing.

25. The vehicle-mounted device claimed in claim 17, wherein said
2 image sensor is disposed behind said mirror and senses said optical
phenomena transmitted through a portion of said mirror.

26. The vehicle-mounted device claimed in claim 25, wherein said
2 portion of said mirror is half-silvered and partially transmits and partially reflects
said optical phenomena to provide said mirror with a uniformly mirrored
4 appearance.

27. The vehicle-mounted device claimed in claim 25, wherein said
2 portion of said mirror is transparent.

2 28. The vehicle-mounted device claimed in claim 17, wherein said image sensor is oriented to sense optical phenomena impinging upon it from a direction substantially perpendicular to a direction of elongation of said housing.

29. The vehicle-mounted device claimed in claim 18, wherein said
2 image sensor comprises first and second portions, said first portion oriented to
sense optical phenomena impinging upon it from a direction substantially
4 perpendicular to a direction of elongation of said housing, said second portion
oriented to sense optical phenomena impinging upon it from a direction
6 substantially perpendicular to a direction of elongation of said housing and
axially opposite said direction from which said optical phenomena impinges
8 upon said first portion.

30. The vehicle-mounted device claimed in claim 29, wherein said first
2 portion of said image sensor is disposed behind said mirror and senses said
optical phenomena transmitted through a portion of said mirror.

31. The vehicle-mounted device claimed in claim 17, wherein:
2 said data sensor circuit further comprises a global positioning system
(GPS) receiver identifying a geographic position of said vehicle-mounted device;
4 and
said capture circuit further records a signal representing said geographic
6 position.

32. The vehicle-mounted device claimed in claim 17, wherein:
2 said data sensor circuit further comprises a microphone;
said capture circuit further records a signal representing said sound
4 impinging upon said microphone.

33. A method for capturing video imagery in a vehicle-mounted system
2 in response to a triggering event, said system comprising a rear-view mirror
device mounted upon a windshield of a vehicle, said rear-view mirror device
4 having a housing with a generally elongated shape, a mirror assembly mounted
to said housing and having a generally elongated shape, a image sensor
6 mounted to said housing and sensing optical phenomena representing said
video imagery, a data sensor circuit within said housing, and a capture circuit
8 within said housing, the method comprising the steps of:
said image sensor sensing optical phenomena transmitted through a
10 portion of said mirror assembly and representing said video imagery; and

12 said capture circuit capturing said video imagery and terminating capture
of said signal representing said video imagery in response to said data sensor
circuit sensing said triggering event.

34. The method claimed in claim 33, further comprising the step of
2 transmitting a signal representing said video imagery to a remote location.

35. The method claimed in claim 33, wherein said step of terminating
capture of said signal representing said video imagery comprises terminating
capture of said signal in response to a change in force experienced by said
device.

36. A method for capturing video imagery in a vehicle-mounted system in response to a triggering event, said system comprising a rear-view mirror device mounted upon a windshield of a vehicle, said rear-view mirror device having a housing with a generally elongated shape, a mirror assembly mounted to said housing and having a generally elongated shape, a image sensor mounted to said housing and sensing optical phenomena representing said video imagery, a data sensor circuit within said housing, and a capture circuit within said housing, the method comprising the steps of:

10 said image sensor sensing optical phenomena representing said video
12 imagery impinging upon it from a direction substantially perpendicular to a
14 direction of elongation of said housing and forwardly through said windshield of
said vehicle and video imagery impinging upon it from a direction substantially
perpendicular to a direction of elongation of said housing and rearwardly with
respect to said vehicle; and

16 said capture circuit capturing said video imagery and terminating capture
of said signal representing said video imagery in response to said data sensor
circuit sensing said triggering event.

37. The method claimed in claim 36, further comprising the step of
2 transmitting a signal representing said video imagery to a remote location.

38. The method claimed in claim 36, wherein said step of terminating
2 capture of said signal representing said video imagery comprises terminating

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4 capture of said signal in response to a change in force experienced by said device.

2 39. A method for mounting a system for capturing video imagery in
4 response to a triggering event, comprising the step of mounting upon a vehicle
6 windshield a device comprising a housing, an image sensor mounted to said
8 housing and sensing optical phenomena representing said video imagery, a data
sensor circuit within said housing responsive to said triggering event, and a
capture circuit within said housing coupled to said image sensor capturing a
signal representing said video imagery and terminating capture of said signal in
response to said data sensor circuit sensing said triggering event.

2 40. The method claimed in claim 39, wherein said housing has a
4 generally elongated shape, said device further comprises a suction-cup attached
to said housing and a mirror having a generally elongated shape mounted to
said housing, and said mounting step comprises the step of adhering said
device to said windshield.

2 41. The method claimed in claim 39, wherein, and said mounting step
comprises the step of engaging said suction-cup upon said windshield.

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